

FIG. 1A(1)

10 30 50 70
gaattccggcgagtgagcgctgacagggactcgcggggcatcttgcacagagccctggaccacgcccgcacatgcagcctccag 90 110 130 150 170
ccagtcctctctcgcgcttctcctcgccatggagcgccgcgacccgctccgcgggcttcgagcagcgagccggcgccgggct 190 210 230 250
gaccccatgtggcgagagcccggtcctgagcgagctgcgctgcgctcccccgcggtcccgccccagcgccgggctcggt 270 290 310 330
cagcatggattcctgttcattctgtcctgttggcagtggtctaatacatgttagtgccaacaatgctactacagtttcacc 350 370 390 410
M D S W F I L V L F G S G L I H V S A N N A T T V S P
430 450 470 490
ttcttttaggaacgacaagattaataaaacatcaacaacagaattggctaaggaagagaataaaacctcaaatccaacctcttc
S L G T T R L I K T S T T E L A K E E N K T S N S T S S
agtaatttctcttctgtggcaccacattcagccccaaacctgactctggagccccacctatgtgactactgttaattcttcaca 510 530 550 570 590
V I S L S V A P T F S P N L T L E P T Y V T T V N S S H
ctctgacaaatgggaccagggcgagccagcacgggaattctggagggcactaccatttccccgaaacggaagctggcttattgagaa 610 630 650 670
S D N G T R R A A S T E S G G T T I S P N G S W L I E N
ccagttcacggatgccataacagaaacctgggaggggaactccagcactgcagcaaccactccagaaaccttccccccggcaga 690 710 730 750
Q F T D A I T E P W E G N S S T A A T T P E T F P P A D
tgagacaccaattattgcggtgatggcgccctgtcctctctgtagtaactcgtgttttattatcatagttctgtacatgttaag 770 790 810 830
E T P I I A V M V A L S S L L V I V F I I I V L Y M L R
gtttaagaaatacaagagctgggagtgatccattccaactcttccgctgtcaaatggccgcacggaggatgtggagccccaaag 850 870 890 910
F K K Y K Q A G S H S N S F R L S N G R T E D V E P Q S
tgtaccacttctggccaggtccccgagcacaacaggaagtaccaccactgcctgtggacaagctgggaaggagagattaaccg 930 950 970 990 1010
V P L L A R S P S T N R K Y P P L P V D K L E E E I N R
gagaatggctgatgacaataagctcttccagagaagaattcaacgctctccctgctgttcctatccaggccacctgtgaggctgc 1030 1050 1070 1090 1110
R M A D D N K L F R E E F N A L P A C P I Q A T C E A A

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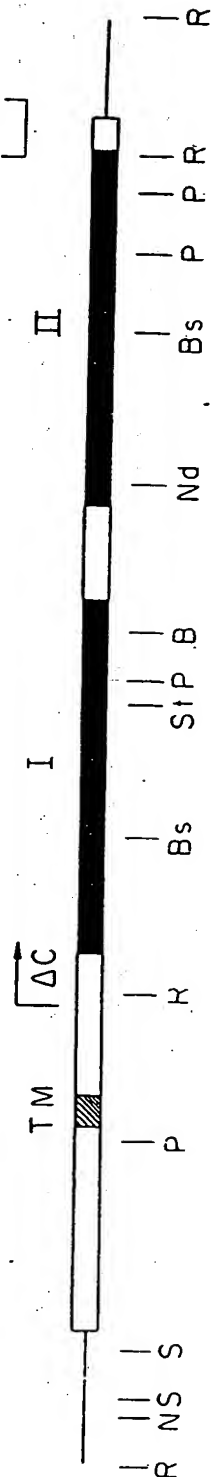


FIG. 2

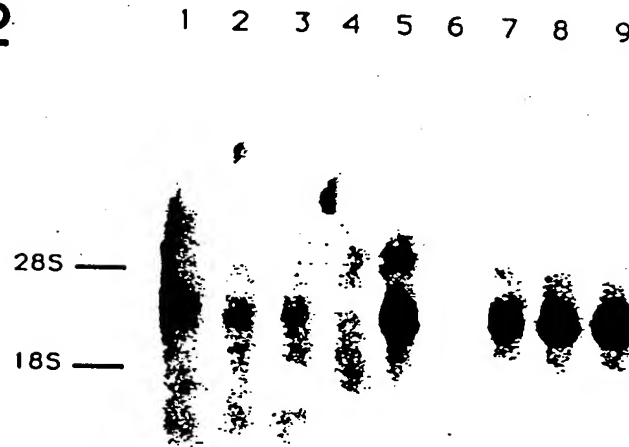
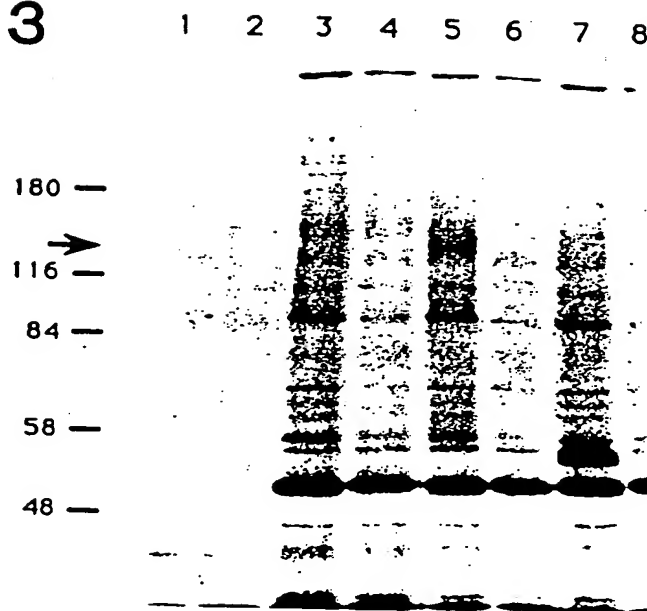


FIG. 3



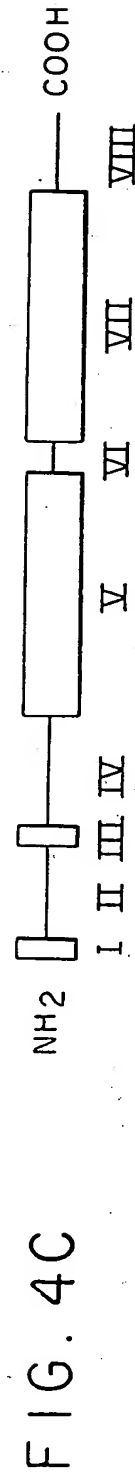
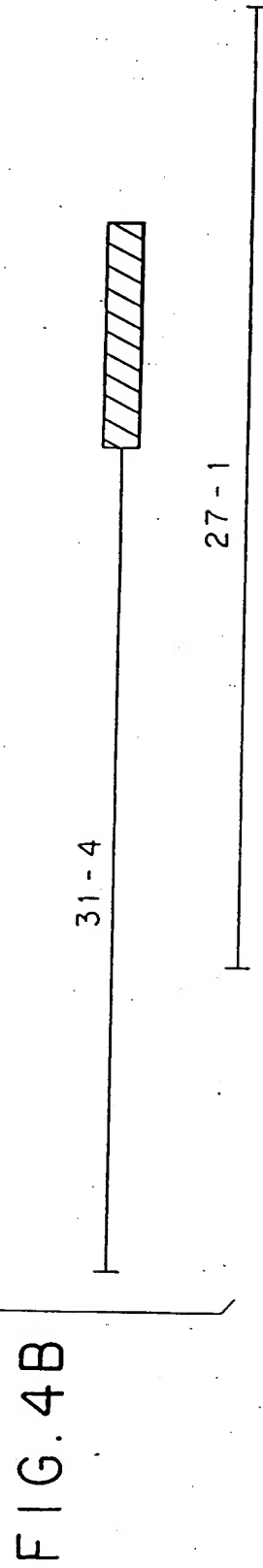
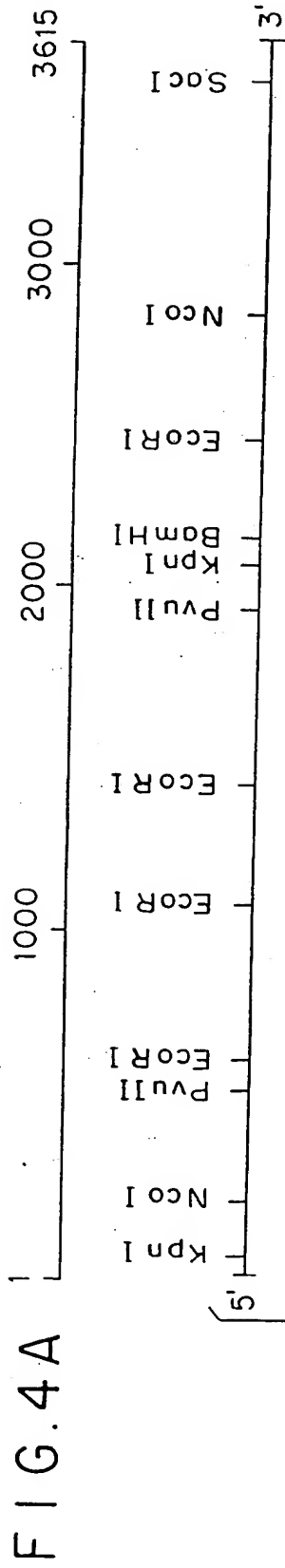


FIG. 5A

	10	20	30	40		
LCA	NqnKNRYVdILPYDynRVeL	sEinGdagSnYINASyIdGfkEprKyIAA				
RPTase α	NKeKNRYVNILPYDIISRVhLtpvE	GvpdSDYINASfInGYqEknKfIAA				
RPTase β	NKHKNRYINiVAYDHSRVKLagLaeKDgKltDYINANYVDGYNrpKAYIAA					
RPTase γ	NKHKNRYINiLAYDHSRVKLrpLpgKDsKhsDYINANYVDGYNkaKAYIAA					
CON	NkhKNRY-niI-YDhsRVkL--l--k--k-sdYINA-y-dGynepk-yIAA					
	50	60	70	80	90	
LCA	QGPrdETVdDFWRMIWEQkatvIVMVTtrceEgnrnKCAeYWPsmEegTra					
RPTase α	QGPkeETVnDFWRMIWEQntatIVMVTNLkErkeCKCAQYWPdqGewTYG					
RPTase β	QGPLKSTaEDFWRMIWEhNvevIVMITNLVEKGRRKCDQYWPdGSEEGY					
RPTase γ	QGPLKSTfEDFWRMIWEqNtgiIVMITNLVEKGRRKCDQYWptenSEEGY					
CON	QGPLk-TveDFWRMIWEqnt-vIVM-TnlvEkgrrrKC-qYWP--gse-yg					
	100	110	120	130		
LCA	fgdVvVkinghkrcpDYiiqKl	nIvn	kkekatgRevThiq			
RPTase α	NirVsVedVtVLv	DYTVRKFc	IQqvGd	mtnRkpgRliTQfH		
RPTase β	NflVTqKSVqVLA	yYTVRnFtlRNTKIKK	Gs	qKGRpsgRVVTQYH		
RPTase γ	NiiVTlKStkihAc	YTVRrFsiRNTKvKK	GqkgnpKGRqneRVViQYH			
CON	ni-Vtvk-v-vla--dytvrkf--rntki-k-g-k---kgr--gRvvtqyh					
	140	150	160	170	180	190
LCA	FTSWPDhGVPedPhllLKlrrrVnAfsnffsGpIVVHCSAGVGRTGTyigID					
RPTase α	FTSWPDfGVPftPigmLKFlkKvKAcnpgyaGaIVVHCSAGVGRTGTfvVID					
RPTase β	YTQWPDmGVPEYsLPVLTfVRKaayAkrhavGPVVHCSAGVGRTGTyIVId					
RPTase γ	YTQWPDmGVPEYALPVLTfVRrssaArmpetGPVlVHCSAGVGRTGTyIVId					
CON	-T-WPDmGVPeypIplvL-fvr-v-aa-----Gp-vVHCSAGVGRTGTyivId					
	200	210	220	230		
LCA	AMLegleaEnKVDVYGyVvklRrQRClMVQveaQYiliHQAALve					
RPTase α	AMLdmhhtErKVDVYGfVsRIRaQRcQMVQtdmQYVFIyQALL					
RPTase β	SMLQQIqhEgTVNifGFLKHIRsQRNYLVQTEEQYVFIHdLve					
RPTase γ	SMLQQIkdkSTVNvlGFLKHIRtQRNYLVQTEEQYIFIHdaLLe					
CON	-MLqqi--e--v-vyGf-khiR-QR-y-VQteeQY-fIH-aL-E					

FIG. 5B(1)

	10	20	30	40	
LCA	NksKNRnsnvIPYdyNRVplkhelemskesehdsdssdddsEEpskY				
RPTase α	NmkKNRvlqIIPYefNRViIpkvr			GEEntDY	
RPTase β	NrEKNRtSSIIPvERSRVGIssLs			GE GTDY	
RPTase γ	NkEKNRnSSvvPseRaRVGlapLp			GmkGTDY	
CON	NkeKNRnss-iPyernRVg---	l-----	-----	geegtdY	
	50	60	70	80	90
LCA	iNASFImsYwkpevmIAaQGPLkeTigDFWqMIqgrKvkviVMLTELkhg				
RPTase α	vNASFIIdGYrQkdsyIASQGPLLHTIeDFWRMIWewKscsIVMLTELeer				
RPTase β	INASYIMGYYSNEFIITQHPLLHTIKDFWRMIWDHNAQLVVMiPDgQnm				
RPTase γ	INASYIMGYYSNEFIITQHPLPHTtKDFWRMIWDHNAQiivMLPDnQsl				
CON	iNAS-ImgYyqsnefi-tQ-PLlhTikDFWRMIwdh-naqiVml---				q--
	100	110	120	130	140
LCA	dQEiCAQYW geGkqtYGDIEvDLKdtdksstYtl RvfelrhskrkdsRrtv				
RPTase α	gQEkCAQYWpsdGlvsYGDItVeLKkeeeCESYTV RdllvtntrenkSRqi				
RPTase β	A EDEFVYWPn kDEpi NCESFkVTLmaeehkCLSNEEKli				
RPTase γ	A EDEFVYWPs reEsm NCEaFtVTLiskdrlCLSNEEqii				
CON	aE-e--qYWps-g---	ygD--v-lk---	nces-tvt---	e-r-cl	sne-r-i
	150	160	170	180	
LCA	yQY qY tnWsvEqLP aepKeliSmIqvVkkQklpQk				
RPTase α	rQf HF hgWPevgiP SdgKgmISiIaaV Qk Qq				
RPTase β	IQDFILEATQDDYVLEVRHFQCPKWPNPDSPIskTFELISVI			K	
RPTase γ	IhDFILEATQDDYVLEVRHFQCPKWPNPdAPISsTFELInVI			K	
CON	iqdfileatqddyvlevrhfgcpkwpnpd-Pis-t-elIsvI-----			qk	

FIG. 5B(2)

	190	200	210	220	230
LCA	nsseGNkhk	stPllihCrdGsqqTGIFCALlnlLEsaetEevvDiFQvVka			
RPTPase α	qqsGNh	PitVHCsaGagrTGTFCALStvLErvkaEgildVfQvVKs			
RPTPase β	EEAaNR	DGPmIVHDEhGgVtAGTFCALTTTLmhQLEkENSVDVYQVAKM			
RPTPase γ	EEAltr	DGPtIVHDEyGaVsAGmlCALTTTLsqQLEnENaVDVfQVAKM			
CON	-eea-nr---	dgP-ivH-e-Gav--GtfCALttlleqle-En-vDvfQv-Km			

	240	250
LCA	LrkaRPgMVstfEQYqFLYdvias	
RPTPase α	LaLqRPhMVgTlEQYefcYKVvqe	
RPTPase β	INLMRPGVFADIEQYQFLYKVILS	
RPTPase γ	INLMRPGVftDIEQYQFIYKARLS	
CON	-nlmRPg----	iEQYqFLYkvils

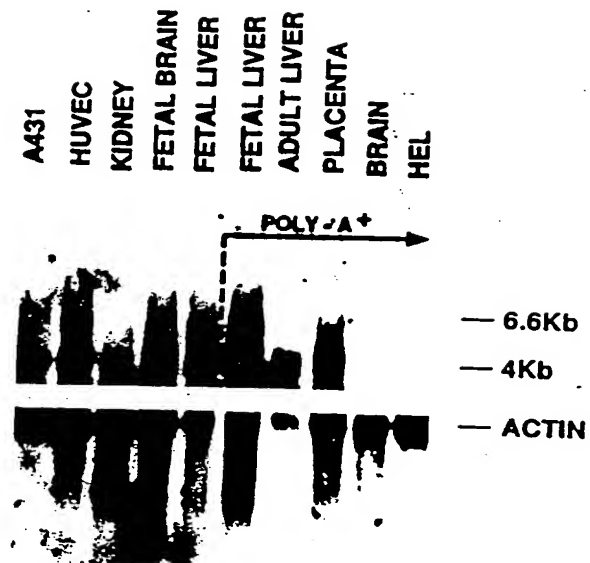


FIG. 6

[illegible]

FIG. 8 (1)

1	ATGGATTCTGGTTTCATTCTTGTTCTGCTCGGCAGTGGTCTGATATGTGTCAAGTCCAAC	60
1	M D S W F I L V L L G S G L I C V S A N	20
61	AATGCTACCACAGTTGCACCTTCTGTAGGAATTACAAGATTAATTAACATCAACGGCA	120
21	N A T T V A P S V G I T R L I N S S T A	40
121	GAACCAGTTAAAGAAGAGGCCAAAACCTTCAAATCCAACCTTCTTCACTAACTTCTCTTTCT	180
41	E P V K E E A K T S N P T S S L T S L S	60
181	GTGGCACCAACATTCAGCCCAAATATAACTCTGGGACCCACCTATTTAACCAGTGTCAAT	240
61	V A P T F S P N I T L G P T Y L T T V N	80
241	TCTTCAGACTCTGACAATGGGACCACAAGAACAGCAAGCACCAATTCTATAGGCATTACA	300
81	S S D S D N G T T R T A S T N S I G I T	100
301	ATTTACCAAATGGAACGTGGCTTCCAGATAACCAGTTCACGGATGCCAGAACAGAACCC	360
101	I S P N G T W L P D N Q F T D A R T E P	120
361	TGGGAGGGGAATTCCAGCACCGCAGCAACCACTCCAGAACTTTCCCTCCTTCAGGTAAT	420
121	W E G N S S T A A T T P E T F P P S G N	140
421	TCTGACTCGAAGGACAGAAGAGATGAGACACCAATTATTGCGGTGATGGTGGCCCTGTCC	480
141	S D S K D R R D E T P I I A V M V A L S	160
481	TCTCTGCTAGTGATCGTGTATTATTATCATAGTTTTGTACATGTTAAGGTTTAAGAAATAC	540
161	S L L V I V F I I I V L Y M L R F K K Y	180
541	AAGCAAGCTGGGAGCCATTCCAATTCTTTCCGCTTATCCAACGGCCGCACTGAGGATGTG	600
181	K Q A G S H S N S F R L S N G R T E D V	200
601	GAGCCCCAGAGTGTGCCACTTCTGGCCAGATCCCCAAGCACCAACAGGAAATACCCACCC	660
201	E P Q S V P L L A R S P S T N R K Y P P	220
661	CTGCCCCGTGGACAAGCTGGAAGAGGAAATTAACCGGAGAATGGCAGACGACAATAAGCTC	720
221	L P V D K L E E E I N R R M A D D N K L	240
721	TTCAGGGAGGAATTCAACGCTCTCCCTGCATGTCCTATCCAGGCCACCTGTGAGGCTGCT	780
241	F R E E F N A L P A C P I Q A T C E A A	260
781	TCCAAGGAGGAAAACAAGGAAAAAATCGATATGTAAACATCTTGCCTTATGACCACTCT	840
261	S K E E N K E K N R Y V N I L P Y D H S	280

FIG. 8 (2)

841	AGAGTCCACCTGACACCGGTTGAAGGGGTTCCAGATTCTGATTACATCAATGCTTCATTC	900
281	R V H L T P V E G V P D S D Y I N A S F	300
901	ATCAACGGTTACCAAGAAAAGAACAAATTCATTGCTGCACAAGGACCAAAAGAAGAAACG	960
301	I N G Y Q E K N K F I A A Q G P K E E T	320
961	GTGAATGATTTCTGGCGGATGATCTGGGAACAAACACAGCCACCATCGTCATGGTTACC	1020
321	V N D F W R M I W E Q N T A T I V M V T	340
1021	AACCTGAAGGAGAGAAAGGAGTGCAAGTGCGCCAGTACTGGCCAGACCAAGGCTGCTGG	1080
341	N L K E R K E C K C A Q Y W P D Q G C W	360
1081	ACCTATGGGAATATTCGGGTGTCTGTAGAGGATGTGACTGTCTGGTGGACTACACAGTA	1140
361	T Y G N I R V S V E D V T V L V D Y T V	380
1141	CGGAAGTTCTGCATCCAGCAGGTGGGCGACATGACCAACAGAAAGCCACAGCGCCTCATC	1200
381	R K F C I Q Q V G D M T N R K P Q R L I	400
1201	ACTCAGTTCCACTTTACCAGCTGGCCAGACTTTGGGGTGCCTTTTACCCCGATCGGCATG	1260
401	T Q F H F T S W P D F G V P F T P I G M	420
1261	CTCAAGTTCCCAAGAAGGTGAAGGCCTGTAACCCTCAGTATGCAGGGGCCATCGTGGTC	1320
421	L K F L K K V K A C N P Q Y A G A I V V	440
1321	CACTGCAGTGCAGGTGTAGGGCGTACAGGTACCTTTGTCTGTCATTGATGCCATGCTGGAC	1380
441	H C S A G V G R T G T F V V I D A M L D	460
1381	ATGATGCATACAGAACGGAAGGTGGACGTGTATGGCTTTGTGAGCCGGATCCGGGCACAG	1440
461	M M H T E R K V D V Y G F V S R I R A Q	480
1441	CGCTGCCAGATGGTGCAAACCGATATGCAGTATGTCTTCATATACCAAGCCCTTCTGGAG	1500
481	R C Q M V Q T D M Q Y V F I Y Q A L L E	500
1501	CATTATCTCTATGGAGATACAGAACTGGAAGTGACCTCTCTAGAAACCCACCTGCAGAAA	1560
501	H Y L Y G D T E L E V T S L E T H L Q K	520
1561	ATTTACAACAAAATCCCAGGGACCAGCAACAATGGATTAGAGGAGGAGTTTAAGAAGTTA	1620
521	I Y N K I P G T S N N G L E E E F K K L	540
1621	ACATCAATCAAAATCCAGAATGACAAGATGCGGACTGGAAACCTTCCAGCCAACATGAAG	1680
541	T S I K I Q N D K M R T G N L P A N M K	560
1681	AAGAACCGTGTTTTACAGATCATTCATATGAATTCAACAGAGTGATCATTCCAGTTAAG	1740
561	K N R V L Q I I P Y E F N R V I I P V K	580

FIG. 8 (3)

1741	CGGGGCGAAGAGAATACAGACTATGTGAACGCATCCTTTATTGATGGCTACCGGCAGAAG	1800
581	R G E E N T D Y V N A S F I D G Y R Q K	600
1801	GACTCCTATATCGCCAGCCAGGGCCCTCTTCTCCACACAATTGAGGACTTCTGGCGAATG	1860
601	D S Y I A S Q G P L L H T I E D F W R M	620
1861	ATCTGGGAGTGGAAATCCTGCTCTATCGTGATGCTAACAGAACTGGAGGAGAGAGGCCAG	1920
621	I W E W, K S C S I V M L T E L E E R G Q	640
1921	GAGAAGTGTGCCCAGTACTGGCCATCTGATGGACTGGTGTCTATGGAGATATTACAGTG	1980
641	E K C A Q Y W P S D G L V S Y G D I T V	660
1981	GAAGTGAAGAAGGAGGAGGAATGTGAGAGCTACACCGTCCGAGACCTCCTGGTCACCAAC	2040
661	E L K K E E E C E S Y T V R D L L V T N	680
2041	ACCAGGGAGAATAAGAGCCGGCAGATCCGGCAGTTCCACTTCCATGGCTGGCCTGAAGTG	2100
681	T R E N K S R Q I R Q F H F H G W P E V	700
2101	GGCATCCCCAGTGACGGAAAGGGCATGATCAGCATCATCGCCGCCGTGCAGAAGCAGCAG	2160
701	G I P S D G K G M I S I I A A V Q K Q Q	720
2161	CAGCAGTCAGGGAACCAACCCCATCACCGTGCACTGCAGCGCCGGGGCAGGAAGGACGGGG	2220
721	Q Q S G N H P I T V H C S A G A G R T G	740
2221	ACCTTCTGTGCCCTGAGCACCGTCCTGGAGCGTGTGAAAGCAGAGGGGATTTTGGATGTC	2280
741	T F C A L S T V L E R V K A E G I L D V	760
2281	TTCCAGACTGTCAAGAGCCTGCGGCTACAGAGGCCACACATGGTCCAGACACTGGAACAG	2340
761	F Q T V K S L R L Q R P H M V Q T L E Q	780
2341	TATGAGTTCTGCTACAAGGTGGTGCAGGAGTATATTGATGCATTCTCAGATTATGCCAAC	2400
781	Y E F C Y K V V Q E Y I D A F S D Y A N	800
2401	TTCAAGTAA	2409
801	F K *	803